

Oracle Database 12c Administration

Description

Databases represent the core of an organization's informational infrastructure. In this Oracle administration training course, you learn the fundamental knowledge and skills to configure and support Oracle 12c databases, maintain your organization's data, and ensure the availability of your data by deploying backup, recovery, and flashback operations.

Delegates will learn how to

- Create, configure, and maintain Oracle 12c databases
 - Automate database administration using OEM Cloud Control 12c
 - Ensure database security by managing user privileges and roles
 - Manage storage to optimize space and performance
 - Implement Oracle partitions to manage large tables and indexes
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Outline

Overview of Oracle Database 12

- Configuring the instance and database
- Balancing user requirements and resources
- Ensuring database availability
- Conceptualizing the Oracle 12c architecture

- Processing transactions with the Oracle 12c server
- Identifying types of processes, memory structures and files

Constructing an Oracle 12

- Creating the database
- Automating memory allocation with memory targets
- Establishing network connectivity
- Setting up control files and online redo log files
- Starting and stopping the database
- Mounting and opening the database
- Authenticating connections having SYSDBA privilege

Automating administration with Oracle Enterprise Manager (OEM) Cloud Control 12

- Evaluating the OEM architecture
- Navigating the graphical interface
- Comparing command-line and graphical techniques
- Maintaining the database with OEM Cloud Control 12c
- Setting thresholds and generating alerts
- Managing privileges and roles
- Evaluating container and pluggable databases

Flashing Back Oracle 12

- Configuring UNDO tablespaces
- Setting UNDO retention targets
- Switching to an alternative UNDO tablespace
- Monitoring and reversing changes to data
- Tracking changes to data values with row history
- Backing out user errors with Flashback Table
- Retrieving dropped tables from the recycle bin
- Implementing the Valid Time support feature

Managing Users and Resources

- Establishing user accounts
- Authenticating users with Oracle 12c password validation
- Allocating space quotas and limiting resource usage

- Enforcing security
- Granting and revoking system and object privileges
- Simplifying privilege management with roles
- Capturing the use of privileges with `dbms_privilege_capture`

Performing Space Management

- Building the storage hierarchy
- Configuring tablespaces and datafiles
- Handling sort data with temporary tablespaces
- Creating Oracle Managed Files
- Structuring data and index segments
- Managing extents, blocks and large objects (LOB) storage
- Eliminating row migration with `PCTFREE` and Data Pump
- Conserving storage by compressing table data
- Regaining space by shrinking tables and indexes online

Partitioning for Performance and Administration

- Creating partitioned and subpartitioned tables
- Evaluating range, list and hash partitioning methods
- Administering partitions with merge, split, add and drop
- Deploying partitioned tables based on virtual columns and referenced tables
- Maintaining index partitions
- Comparing the performance and maintenance of local and global indexes
- Monitoring index partitions and rebuilding unusable indexes
- Limiting indexing of partitions with partial indexing

Building a Fault-Tolerant Database

- Safeguarding the database
- Role of the redo log and control file
- Ensuring recovery using archiving
- Protecting and tracing the control file
- Backing up the database and performing recovery
- Implementing user-managed hot and cold backups
- Restoring and recovering the entire database
- Recovering corrupted tablespaces
- Managing logical errors with flashback transaction back out

Prerequisites

A working knowledge of SQL and PL/SQL packages is very helpful in the course. Basic knowledge of Linux operating system